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# GIS TRAINING

## General Course Outline

1. Introduction to Geographic Information System (G.I.S)
  - Components of GIS
  - GIS tasks and Functions
  - Spatial data
2. Global Positioning System (GPS) Course Outline
  - A. Theory:
    - History of GPS
    - Satellites around the earth
    - How GPS works
    - GPS configuration with details
  - B. Practical:
    - GPS configuration
    - Collecting GPS points (latitude , longitude and elevation ) in the field
    - Transferring GPS points to PC and working with GPS points to create geographic data as point, line and polygon.
3. QUANTUM GIS (QGIS)
  - i. The QGIS Interface
  - ii. Adding Vector Data
    - Shapefiles
    - Adding Data to a Map View
    - Drawing Order
  - iii. Exploring the Map View
    - Measuring Distances and Areas
  - iv. 4. Exploring Features
    - Attribute Tables

- v. 5. Adding Raster Data
- vi. 6. Saving Your Project
  - Project Files
- vii. 6. Transforming Map Projections
  - Understanding Coordinate Reference Systems
  - Latitude and Longitude
  - Defining Undefined Projections
- viii. More Geoprocessing
  - Singlepart and Multipart Features
  - Generalization and Scale
  - CSV Files
- ix. Creating Calculated Fields
  - Representing Values
- x. Classifying and Symbolizing Data
  - Data Classification and Color Schemes
  - Color Brewer
- xi. 10. Designing Maps
  - QGIS Map Composer: Some Details
  - General Map Design
  - Output Formats
- xii. 11. Adding Labels
  - Labeling in QGIS
  - Thematic maps and Symbols
  - Considerations and Next Steps
- xiii. 12. Real world spatial analyses
  - Conducting density analysis
  - Conducting visibility analysis
  - Conducting suitability analysis